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BRITISH ANTS,

THEIR LIFE-HISTORY AND CLASSIFICATION.

BY

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PREFACE.

THE study of British ants has long been retarded by the want of a comprehensive work. In spite of the great and admitted fascination of the subject very few books have been devoted to it, and of these not one attempts to deal with the whole subject. It is with the object of supplying this long-felt want that the present volume has been written.

The Rev. W. Gould, who may justly be called the Father of British Myrmecology, published a little book—"An Account of English Ants"—in 1747. Although this is of great interest—both as a curiosity and also for the really admirable account of some habits of a few British ants—the author only knew five species, and of course a vast amount of information has accumulated since his time. Lord Avebury's well-known work on "Ants, Bees and Wasps" (1882), which includes most of his earlier papers on these insects, is, as regards ants, almost restricted to experiments on behaviour.

The Rev. Farren-White's small popular book, "Ants and Their Ways" (1883), which touches on ants in general, gives a number of useful notes on British species, but it is neither very scientific nor accurate.

Finally Edward Saunders in his admirable Hymenoptera Aculeata (1896), devoted some twenty-six pages to the British ants. The treatment is almost entirely systematic and naturally after the lapse of so many years requires bringing up to date.

This brief list shows how great is the need for a work which will include all that is now known on our ant fauna.

Such a work I have endeavoured to write, and as I have been studying the habits of ants for over twenty years, have taken all our British species, and have kept most of them in captivity, I feel in some measure justified in undertaking the task.

Scattered throughout and often buried in our literature, are

large numbers of notes and papers dealing with ants. It would be astonishing if this were not so, considering the deep and wide interest attached to these insects—morphologically, as well as physiologically, bionomically and psychologically. These notes and papers I have endeavoured as far as possible to collect and make available for the reader. This task has indeed been somewhat of a difficulty, and it would have been easier for me to write and possibly more interesting for the student to read, if a continuous account had been given of the habits, etc., of our species as known to me, instead of a narrative continually interrupted by references and by quotations from the records of other writers.

I was at first tempted to adopt the former method, but on reflection it seemed obviously necessary in a scientific work to pay due attention to the historical aspect of the subject.

The facts recorded by Continental and American Myrmecologists on British species which also form part of their fauna have been largely drawn upon in the preparation of the present work. The geographical distribution in Britain is in all cases given as fully and as carefully as I have been able to ascertain it from published records or from personal observation. It is to be hoped that our knowledge of this distribution will be greatly extended when further workers are induced to study these most interesting insects.

With regard to the references quoted in the synonymy—I have mentioned every name that I have found applied to each species of ant, but have not attempted to quote every reference that has been made to them. It appeared better to restrict the synonymic references to the more important notices ; for, as has already been explained, there is also a vast mass of quotations and references in the text. Some slight conception of the vastness of the general literature on ants may be gathered from a mere perusal of the references, both synonymic and text, that are to be found in the following pages.

An almost complete list of this literature, up to 1908, will be found in Wheeler's charming book, " Ants, Their Structure, Development and Behavior " (New York, 1910).

In the present work the native genera and species are almost invariably described from a long series of British specimens—my own captures. To this account the full original description is always added in the language of the describer.

It has been, of course, impossible to describe the introduced species, or to quote many of the references to them; for otherwise this book would have become inordinately long. For the same reason I have for the most part contented myself with a list of the myrmecophiles (other insects, etc.) found with each species of ant. At some future date I hope to write a companion volume entirely devoted to the British myrmecophilous fauna.

A list—as complete as I have been able to make it—of the literature dealing with British ants is printed at the end of the book. This list also includes papers on myrmecophiles, as from these latter I have largely obtained information on the distribution of their ant-hosts. Other notes on ants contained in papers on Hymenoptera, and Entomology generally, will be found in the references under each species.

It may be stated that I have personally verified *every* reference given in this book. In catalogues, such as Dalla Torre's, etc., dealing with vast accumulations of literature, it is impossible to guard against occasional errors, which are unfortunately copied again and again, and sometimes increased by mistakes in the copying. I can only hope that by much pains I myself have erred as little as possible in this direction.

I must thank most of our Entomologists for kindly sending me ants to name, and allowing me to see their captures. I am deeply indebted to Mr. J. H. Durrant, the Rev. F. D. Morice, and Professor E. B. Poulton for kind encouragement and assistance, Professor E. A. Minchin for dissections of the internal structure, Mr. E. A. Elliott for translations from the Danish and Swedish, and Mrs. Mellor for her kindness in collating and type-writing the Pilot-files, card-indexes, etc., in connection with my extensive myrmecological library.

The following account of twenty years of labour and experience has been brought to a conclusion during the opening months of a supreme national crisis—wellnigh within sound of the guns. At such a time it is too much to hope or even to wish that the problems of biological science should receive their due meed of attention. But later on, when the success of which we cannot be doubtful shall have attended our efforts and those of our Allies, when intellectual pursuits have resumed their sway, it is hoped that the

present volume will serve both as an inducement and an aid to the study of the most fascinating of all insects.

The figures inserted in the text (except Figs. 45–50) were drawn by the late T. Carreras. Nearly all are from nature; but a few are copies, and in such cases reference is made to the sources from which they were taken.

The drawings for Figs. 45–50, and also the beautiful paintings reproduced on Plate IV, are the work of the accomplished Belgian entomologist and artist, J. Bondroit.

The photographs of eggs, larvae, pupae, and perfect insects are from negatives taken by A. W. Dennis from specimens of my own collecting: those representing nests and their surroundings are from negatives taken by myself, except where otherwise stated.

HORACE DONISTHORPE.

December 31*st*, 1914.